Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of		
Appropriate Framework for Broadband Access to the Internet over Wireline Facilities	)	CC Docket No. 02-33
Universal Service Obligations of Broadband Providers	)	
Computer III Further Remand Proceedings: Bell Operating Company Provision of Enhanced Services; 1998 Biennial Regulatory Review – Review of Computer III and ONA Safeguards and Requirements	)	CC Docket Nos. 95-20, 98-10

Response of Community Internet Systems, Inc.

Please accept this as the response of Community Internet Systems, Inc. (CISI) to the Commission's Notice in this matter. This filing is principally made to ask that the Commission in these proceedings not take action that would adversely impact this 8 year old grass roots rural project which has been reasonably successful in bringing the benefits of the Internet and broadband to one of the most rural regions in America. It has done so with local capital, without having any government funding or Universal Service support, and in an environment where its necessary suppliers are its competitors and are suppliers only because of government mandate. This grass roots project can be a model for implementing broadband in rural communities in a way that encourages local investment, local control and customer service, and new technology development. We believe the public policy arguments for Commission action that would facilitate this model are compelling.

Required Short and Concise Statement

Community Internet Systems, Inc. (CISI) has pioneered Internet service on the prairies of Nebraska since 1994. It is one of very few companies in rural Nebraska that is not an ILEC that is providing broadband DSL. Based on its experience CISI argues that the most significant practical impediments to provisioning service in rural communities and raising the necessary capital are impediments generated by having to rely on a supplier that does not want to supply and has strong economic incentives to discourage the development of competitors. ILEC collocation, UNE pricing and access policies are cited as major obstacles.

Response

The response is intended as a field report on what local talent and capital have to overcome to bring broadband to rural communities. The nature of this response does not lend itself well to tracking the organization of the NPRM. For not doing so, we ask for the Commission's indulgence.

As a matter of the background of this response:

In 1994 most Americans had no real idea what the word "Internet" was all about. Even fewer had actually used the unusual system of communication. Internet was definitely not a household word and almost no rural Nebraska community had toll free public access to it. Two years earlier the State of Nebraska made a commitment to extend educational Internet to public schools through the Educational Service Units (ESU's). ESU7 had just trained local technical personnel with the basic skills of network development. Linda Aerni was working at Nebraska Public Power District (NPPD) to convince its management that there was merit to the technology. Central Community College was working with NPPD and the ESU7 to put together a workshop to show local business there was merit in investing in computer networks and computer communications. Linda Aerni contacted Columbus attorney, Paul Schumacher, who was planning on attending the workshop to tell him that the workshop had been cancelled because of lack of interest. Following the call a decision was made to bring toll free Internet to Columbus, Nebraska, a small prairie community of 20,000. Internet in libraries was becoming a priority, but in small rural communities like Columbus the public funding was not adequate. It was suggested that the basic hardware and lines be installed in the Columbus Library so that the public could access the system without cost and learn about the technology. Bob Trautwein, Librarian, and the Columbus Library Board were eager and welcomed the opportunity. Initial funding for the project came from local investors and technical assistance came from Aerni and the people earlier trained by the ESU. Within less than a year the Internet revolution swept the nation and this venture was a leader in Nebraska. For its pioneering innovation it received recognition from the Governors of Nebraska, Kansas, and Colorado as a model communications success story in 1995 at an event hosted by the Docking Institute. The project was duplicated in Ogallala (population 5,000), Kimball (population 3,000), Chappell (population 1,000), Humphrey (population 800), and with encouragement from Cornhusker Public Power District extended along a 90 mile stretch of Hiway 91 having several communities ranging in size from 43 (Cornlea) to 1,900 (Albion). Working with the Nebraska Cooperative Government and NPPD a unique non-profit version of the project was launched in Alma, Nebraska (population 1,200).

In 2000 Community Internet received authorization to become one of a handful of Nebraska bred organizations qualified as a Competing Local Exchange Carrier (CLEC). This authorization enabled it to be the first to introduce wired broadband to Columbus in 2001. Community Internet provides complimentary Internet to many libraries and local

governments throughout the state, including the City of Columbus and the Platte County Courthouse.

In addition to connecting Nebraskans to the Internet, the company has some of the advanced web hosting and e-commerce facilities all located in small rural communities. Its economic development activities have spawned numerous Internet and web related ventures all across Nebraska.

Report from the Prairie:

Because all good public policy must be grounded in the realities that exist in the trenches, these are the facts of the CISI experience:

We can honestly conclude that the greatest obstacles encountered in our efforts to accomplish the objectives for rural communities that the Commission articulates in its notice are artificial obstacles that are the product of the history of the telecommunications industry.

Incumbent phone service to the communities served by CISI is through Frontier/Citizens, Qwest, and Sprint. For a large variety of reasons, community frustration with each of them runs very high. Local ILEC operations are managed by remote control from out of state headquarters. Although the priority for investment by the ILECs in these communities is extremely low, the ILECs are unwilling to surrender the territory or sell it a reasonable price to local investors. There is equal reluctance to permit local investors reasonable access to necessary infrastructure. As long as the large ILECs are able to discourage local public or private investment, the communities' desire for service parity with urban centers can be held hostage for guarantees of monopoly position and huge government subsidies where the public pays for the infrastructure and the ILECs own, control, and profit from it. The ILEC determination to maintain monopoly presence in these communities was exemplified when a movement in Nebraska to enter into the telecommunications business by the Public Power Companies who serve even the most remote areas with excellent electric service and rates well below the national average was thwarted by intense ILEC opposition and masterful lobbying of the Nebraska Legislature. Unquestionably that movement, had it been permitted to proceed, would have provided broadband service to those same remote areas on a faster timetable and at rates below what the ILECs would charge.

In March 1998, CISI approached GTE about working with it to bring consumer grade wired broadband to Columbus, Nebraska. GTE responded that it was not interested because it had determined to sell its Nebraska exchanges. Citizens Telecommunications Company bought the GTE territory at a price that no other company would pay and quickly learned it probably paid far too much. The purchase became a management and billing nightmare for Citizens who later had to merge with Frontier to acquire its management skills. CISI approached Citizens with the same request it had made of GTE. Reluctant to invest more, Citizens

informed CISI in September 2000 that wired broadband was probably 2 years away for the Columbus area. CISI made a determination to use its recently granted CLEC authority to "just do it". To locate a simple, one rack DSLAM and splitter in the Central Office required a $10,000,000 liability Insurance policy, NEBS 3 compliant 48 volt DC equipment which is far more expensive than comparable 120 volt AC equipment, $600/month in DC power to do what $10/month in AC power would do, over $100 per month for about 8 square feet of space *(In rural areas entire buildings rent cheaper.)* that does not even have after-hours access without calling in a Citizen's person to unlock the building, and a 200 page interconnection agreement which probably could have been trimmed down had it been feasible to spend thousands more on negotiations over a protracted period of time. Having complied with all that, when it became apparent CISI was going to really do it, Citizens prioritized the installation of its own DSL, pulled resources off other projects, and brought in its affiliated Internet company. CISI turned up its service in March 2001 but faced a confusing array of ordering requirements preventing it from taking orders while Citizens feverishly worked on deploying its system. In rural communities there is an old saying, "Nothing makes a hog eat faster than another hog heading for the trough". Were it not for the intervention of the Nebraska Public Service Commission calling an end to the nonsense, CISI would still be trying to determine the form and color of the UNE order form. The Citizens Internet affiliate is permitted to operate in the same CLEC room as CISI. For some reason it does not need or use NEBS3 compliant equipment and simply is allowed to plug into the cheap 120 volt AC power outlet.

The Columbus (population 20,000) experience taught us that the added overhead of a $20,000 in co-location costs and $600/month power costs would make DSL installations in smaller communities impossible. Yet, our smaller communities needed service. A new approach was designed for a DSL pilot project in Alma (population 1,200). We went to the local hardware store next to the Citizen's CO and found the owner willing to give us space and power for the equivalent cost of a DSL connection. The plan was simple. Co-locate nothing in the Citizens office. Have the customer line be wired to an interconnection point between the Citizens CO and the hardware store. CISI would run the line to the DSLAM and feed the low frequency side back to Citizens for dial tone. The economics were not there for Citizens to want to do DSL in Alma so Citizens was agreeable and the design, together with the non-profit nature of the Alma project, worked great. The design worked so great that business DSL is only $39.95 / month, likely the cheapest rate in the State and cheaper even than the urban areas. The only obstacle imposed by Citizens in Alma was we needed to carry the Internet signal from the hardware store to the CISI POP in the public library five blocks away *(where the library gets complimentary service-no need for library USF under the Alma design)*. Citizens owned the poles that CISI wanted to hang a piece of fiber on. To let CISI hang wire on the poles Citizens would require CISI to do it absolutely by the book, even to the extent of possibly replacing a few poles which might be overloaded by one more wire. With the help of the city maintenance man and some fiber from Long Lines phone company in Sergeant Bluff, Iowa, CISI trenched the fiber down the alley and avoided the issue with Citizens. At the time of the Alma installation CISI added another innovation in both

Columbus and Alma. It permitted homes and businesses on the end of a DSL circuit to share with their next-door neighbors over a simple Ethernet link. That works great and reduces the price to $29.95/month.

In August, 2001, CISI wrote Joe Nacchio at Qwest about working with Qwest on an Alma like project in our Qwest communities. Unlike GTE's Charles Lee who personally responded in 1998, there was no response from Mr. Nacchio or anyone at Qwest. Upon the successful implementation of the Alma project in November, 2001, CISI proceeded to try to duplicate it in CISI's Qwest towns of Ogallala (population 5,000), Humphrey, Howells, and Clarkson (population less than 1,000). It purchased the DSLAMs in December and using the Alma design could have brought them on line in a month. In mid December, 2001, CISI began in earnest to seek out the proper authorities at Qwest with whom to negotiate. It soon became apparent that while CISI thought Citizens was a reluctant supplier CISI hadn't seen anything yet. After not much initial success in making contact, Nebraska Public Service Commission staff suggested it contact Robert Lamphiere. Mr. Lamphiere referred CISI to "Debra" at wholesale markets. After several days Debra referred us to "Heidi" in Denver who after several days referred us to "Linda" in Seattle. Linda was very pleasant and seemed to be the right person to talk with. She wanted a diagram of what we proposed to do at each of the CO's. CISI provided her with a diagram of the Alma design. Linda assembled a negotiation team of half a dozen Qwest people who concluded that Qwest had no such product because the voice signal left Qwest for the short trip to the splitter (filter box) it wasn't line sharing in Qwest's sense of the word. Qwest did, however, provide CISI with 5 diagrams 4 of which everyone agreed would be too expensive to be practical and were not consistent with what CISI wanted to do. The fifth of the diagrams was the functional equivalent of the original CISI diagram with the exception that the line splitting was done within the Qwest facility.

CISI next looked at the cost of implementing DSL in Ogallala, Humphrey, Howells, and Clarkson. At this point we observed a basic barrier. That barrier was the pricing relating to co-locating equipment such as the line splitter and the mechanism for physically attaching to the local loop. The Qwest template seemed to be understandably designed with big operations in mind. The lightning protection connectors where the lines enter the building are sold at a fairly reasonable rate of $17 per line, but available in blocks of no less than 100 lines and the size of that block was non-negotiable. In a small community like Humphrey, Howells, and Clarkson where there might be 12-24 DSL customers in the reasonable future, the 100-line minimum tends to tilt the scales against making the investment. Then there were the engineering fees and filter box common area fees that are reasonable in the context of an installation in Omaha or Denver but prohibitive in a small operation. To use 4 screws to screw a box the size of a VCR into a rack and run wire to it requires the following fees:

Quote preparation	$	392
Engineering Charge		904
Splitter Shelf Space		515

Splitter (data to 410 Block)	836 (up to 16 lines) otherwise $2743
Splitter engineering charge	1272

These fees are in addition to the normal monthly fees and the $1,700 for the 100 line lightning arrestors. These fees are per location even though it is the same design at each location and once "engineered" there will be little if any "re-engineering". Most of the "Splitter" related charges are a result of Qwest insistence that the Splitter be located in their CO and not in the CISI facility as in Alma.

Never-the-less CISI decided to proceed with Ogallala and sent Qwest the fee that Linda in Seattle had computed. It signed the SGAT, all 300 pages, most of which are irrelevant but the expense and time loss of negotiating anything reasonable outweighed the absurdity of adopting the SGAT. CISI then was referred to "Gayle" in Salt Lake City who told CISI it needed a verifier code for its computer before CISI could order anything from the Qwest ordering system. She would provide the code. That office also said they did not know what to do with the fee CISI sent and needed to return the check because it would likely be misplaced. Meanwhile CISI completed its wiring and DSLAM installation with a 100 pair of copper left hanging next to the interconnection box which sets directly between the Qwest Ogallala CO and CISI's DSLAM facility located in the Public Library across the street *(where the library gets complimentary service-no need for library USF in Ogallala).* There are 200-300 available pairs in that box. Weeks later CISI still did not have the computer verifier code. But it was determined by Qwest that CISI really didn't need it. CISI was however informed that to connect the wires CISI had to place an order for 100 pairs at a time. There is a $30 a pair connection fee and $3.50 per month per pair connection fee thereafter. CISI doesn't need 100 pairs but supposedly that is the lowest increment Qwest will provide, even if not needed. Qwest also pointed out that even if CISI could order lesser amounts it wouldn't want to because to get more pair if CISI needed them there would be more project and order fees and it could take up to 6 months for such an order. Qwest was fairly sure that was its position but would get back right away once it knew if it was sure. It hasn't yet. In the normal business world if a supplier engaged in business that way, the customer would go to the competition. In this business there is nowhere else to go. As long as the supplier can use ingeniously induced frustration, as a tool to thwart would-be competitors and investors, the supplier can honestly say "They need broadband in rural Ogallala. Sure is a shame it isn't there. We'd bring it there but we need financial assistance. We need to have government ease up on all these regulations. We need to be assured if we make the investment we can count on no competition." Meanwhile DSL at bi-directional speed of 1-6 mb/s in Ogallala lies in an alley at the end of a bundle of wire six inches from reality.

The bottom line is even though the copper is in place, the equipment is there, and the bandwidth to the outside world is there, it is now April and there is no wired broadband in Ogallala. There may never be in Humphrey, Howells, and Clarkson. Why? Because standing in the way is the same force that in Washington claims that there cannot be

broadband in rural communities unless a practical monopoly is assured it and a ton of government aid is given to it.

The very fact that those incumbent claims may actually be believed in Washington has still another deterrent effect on the development of new communication capacity in rural areas. Local investors consider unfavorable and unpredictable legal and regulatory action in Washington as a principal risk to investment in telecommunications infrastructure. Local investors are willing to take on the risk of competition for local business because they know there is no way to run a good telecommunications business through remote control by a distant corporate board room that must necessarily have its principal focus on Wall Street. Local investors know they can blow away the competition with customer service and innovation. Local investors, however, fear they are not in the position to take on multi-million dollar lobbying and legal efforts in Washington. The Commission is in a position to send a clear signal to local investors that it is safe to invest in their communities. If the Commission wants to remove a significant barrier to that investment it needs to send that message

A different barrier exists in Kimball (population 3,000). Sprint bought the exchange from United. The infrastructure was old copper insulated with paper. It was problematic for some customers when the paper got wet. For many customers it worked fine and delivered very good 56K dial up service with actual connection speeds usually in excess of 45k. Sprint replaced the copper in many areas with fiber fed remotes. The equipment Sprint used to take the signal from the copper to the fiber and back into its copper fed switch cut the speeds to 26.4k. Sprint did offer ISDN at very reasonable rates and CISI installed equipment to offer ISDN Internet, the cost of ISDN was sufficiently higher than dial up that few people could afford it.

The issue of fiber fed remotes raises still another problem. Although the Commission has ruled that a CLEC may have access to the customer loop at either the CO or the remote, if there is no longer copper back from the remote to the CO the cost of transport back from the remote over ILEC fiber is a barrier to service to customers on the remote. The ILECs want full co-location fees to locate DSLAMs in the remotes or to bridge the copper loop into wire that leads to the Central Office if such wire exists. If the ILEC classifies the remote to CO wire as abandoned there is no practical way to find out if it exists or where it is located. If CISI wants a point to point loop, the ILEC's don't want to provide it. To do that CISI needs 2 loops and a full co-location arrangement for the remote. The collocation is supposedly necessary in order to bridge the 2 loops. Thus, just to splice a wire the cost is thousands of dollars. What practical effect is that? What services are denied or priced beyond feasibility? CISI has a T-1 point of presence in the little town of Lindsay, Nebraska. It is a few blocks away from the community parochial school "Holy Family" with several hundred students. CISI is willing to donate signal to that parochial school just as it does in Humphrey. To do that CISI either needs to string wire or fiber at substantial cost or get access to the copper pairs already just laying there and add a DSL modem to each end of the copper. If there were

access to the pairs connectivity could be accomplished for less than $500. If to get access requires a full collocation in the Lindsay CO/remote, the cost is prohibitive and the children at Holy Family will either have to do without or pay the local ILEC several hundred dollars a month for a T-1 link to our donated signal.

Again it is not the lack of equipment or the lack of community bandwidth to the Internet or the lack of copper or fiber but the artificial barriers that the ILEC is in a position to impose that stand in the way in many rural communities, certainly in the communities CISI serves. It is to the ILEC's benefit to impose and vigorously maintain those barriers. The longer the barriers exist, the longer investment can be dissuaded, the more aggravation and cost that can add to prevent another entering the market and providing the service, the more the credible the ILEC argument that rural communities won't have broadband unless they are granted a practical monopoly and substantial government assistance becomes.

What CISI would like to have the Commission keep in mind during its deliberations is for the public to be served and for investors to invest in their communities there must be access to the copper, particularly at least the higher frequency spectrum, there must be the ability to co-locate equipment at the remotes and CO at reasonable rates and there must be reasonable access to the fiber between remotes and the CO. There has to be penalties for standing in the way of investors wanting to do the job. What is reasonable for a Denver is not reasonable for a Howells. Insurance; unreasonably high DC power costs; unnecessary or discriminatory NEBS3 compliancy requirements; ILEC enforcement one set of standards for pole attachments and inter-duct access for the CELC and another for itself; co-location and engineering fees set the same for a small rural installation or remotes as for a major urban centers; high cost and delay in negotiating relevant Interconnection agreements; the nature of being at the mercy of a single supplier who has inherited the fruits of monopoly and who does not want to be a supplier and does not want to service a competitor/customer; political restrictions imposed on public entities as a result of intense lobbying in some states; ingeniously generated ILEC mazes and internal ILEC bureaucratic complexities which function to frustrate and slow service provisioning by non-ILEC's; and regulatory uncertainty with respect to local investment are some of the real barriers to broadband in rural areas. If those barriers were removed, a surge of new local capital and development of a solid packeted communication infrastructure by local people for local people could be expected. CISI, rural investors, and rural communities across American implore the Commission to hear these faint voices from the hinterlands and plead with the Commission not take any action that would impede the growth of our grassroots effort and forever place our communities beyond the reach of local investment and local control. And if in the scheme of things the Commission could give us some help we'd really appreciate that.

Respectfully submitted.

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